

Submission of papers

Manuscripts for the main part of the journal should be submitted to the Editor-in-Chief, Professor H. Herman, or for authors in Japan to Professor H. Kimura:

Professor Herbert Herman
Department of Materials Science and Engineering
State University of New York at Stony Brook
Long Island, NY 11794, U.S.A.

Professor Hiroshi Kimura
Research Institute for Iron, Steel and Other Metals
Tohoku University
Sendai, Japan

Manuscripts for the Letters Section should be submitted as follows:

For authors in Europe except Great Britain

Professor Haël Mughrabi
Institut für Werkstoffwissenschaften
Universität Erlangen-Nürnberg
Martensstrasse 5, D-8520 Erlangen, F.R.G.

For authors in North and South America,
Great Britain and the rest of the world

Professor Herbert Herman
Department of Materials Science and Engineering
State University of New York at Stony Brook
Long Island, NY 11794, U.S.A.

For authors in Japan

Professor Hiroshi Kimura
Research Institute for Iron, Steel and Other Metals
Tohoku University
Sendai, Japan

Manuscripts

Three copies should be submitted to the Editor, in double-spaced typing on pages of uniform size and with wide margins (Letters should not exceed 2000 words). All tables and illustrations should bear a title or legend.

An *abstract* should accompany reviews, original papers and Letters. It should present (preferably in 100-150 words; 50 words or less for Letters) a brief and factual account of the contents and conclusions of the paper, and an indication of the relevance of new material.

References should be indicated by numerals in square brackets, introduced consecutively and appropriately in the text. References must be listed on separate sheet(s) at the end of the paper. Every reference appearing in the text should be quoted in the reference list, and vice versa.

One set of line drawings should be in a form suitable for reproduction, drawn in Indian ink on drawing or tracing paper (letter height, 3-5 mm). Photographs should be high contrast glossy black-and-white prints; duplicates of micrographs should be provided wherever possible to facilitate the refereeing process. Where magnifications are concerned, it is preferable to indicate the scale by means of a ruled scale bar on the photograph. Legends to illustrations should be typed in sequence on a separate page.

Authors must express all quantities in SI units, with other units in parentheses if desired.

CONTENTS (continued)

Deformation of surface cladding and matrix of tungsten-fiber-reinforced superalloy under thermomechanical loading	L 13
R. C. Wetherhold (Buffalo, NY, U.S.A.) and L. J. Westfall (Cleveland, OH, U.S.A.)	
Ductility of TiN-coated high speed steel.	L 19
A. S. Korhonen and J. M. Molarius (Espoo, Finland)	
Influence of surface treatments on the dynamic fatigue of soda-lime glass with indentation flaws	L 25
G. Sorarù and R. Dal Maschio (Padua, Italy)	
AUTHOR INDEX	201
SUBJECT INDEX	203

CONTENTS

EDITORIAL	v
VIEWPOINTS	
An outline of trends in materials science and processing	1
A. Kelly (Guildford, U.K.)	
A two-parameter description of heterogeneous dislocation distributions in deformed metal crystals	15
H. Mughrabi (Erlangen, F.R.G.)	
Minimum weight design for stiffness in sandwich plates with rigid foam cores	33
L. A. Demsetz and L. J. Gibson (Cambridge, MA, U.S.A.)	
The mechanism of a hydrogen-dislocation interaction in b.c.c. metals: embrittlement and dislocation motion.	43
M. V. Rodríguez and P. J. Ficalora (Troy, NY, U.S.A.)	
The effective fracture energy associated with cleavage crack growth in b.c.c. iron	53
E. Smith (Manchester, U.K.)	
A study of back stress during creep deformation of a superalloy Inconel 718	59
Y. Han and M. C. Chaturvedi (Winnipeg, Manitoba, Canada)	
Effect of grain size on the high cycle fatigue behaviour of polycrystalline copper.	67
P. Lukáš and L. Kunz (Brno, Czechoslovakia)	
Spall studies on Ti-6Al-4V	77
Y. Me-Bar, M. Boas and Z. Rosenberg (Haifa, Israel)	
Carbon and nitrogen effects on the elastic constants of a stainless steel at 4 K.	85
H. M. Ledbetter, M. W. Austin and S. A. Kim (Boulder, CO, U.S.A.)	
Slow plastic flow properties of B2 Co-Fe-Al and Co-Fe-Al between 1100 and 1400 K	91
J. D. Whittenberger (Cleveland, OH, U.S.A.)	
Deformation during fatigue near surface indentations and pits in copper crystals.	101
P. Charsley and J. D. M. White (Guildford, U.K.)	
Analytical treatment of grain boundary sources for dislocations.	115
R. A. Varin (Waterloo, Ontario, Canada), K. J. Kurzydowski (Warsaw, Poland) and K. Tangri (Winnipeg, Manitoba, Canada)	
The stability of lamellar γ - γ' structures.	127
M. V. Nathal and R. A. Mackay (Cleveland, OH, U.S.A.)	
Sputter-deposited and ion-mixed Ni-Ti and Ni-Cr thin films	139
A. K. Rai and R. S. Bhattacharya (Dayton, OH, U.S.A.)	
High resolution X-ray diffraction study of defect structures produced by high d.c. electric fields in silicon single crystals	147
K. Lal and S. N. N. Goswami (New Delhi, India)	
Corrosion of Fe-Cr-Si-B metallic glass wires.	157
G. Savva (Toronto, Ontario, Canada), Y. Waseda (Sendai, Japan) and K. T. Aust (Toronto, Ontario, Canada)	
Effects of pretreatments on the oxidation behavior of Ni-Co-Cr-Al-Y coatings	165
R. C. Budhani, S. Prakash, H. J. Doerr, C. V. Deshpandey and R. F. Bunshah (Los Angeles, CA, U.S.A.)	
Surface analysis of light elements at metal surfaces using (p, γ) reactions	181
A. Wriekat (Amman, Jordan)	
Phonons in graphite and LiC ₆	187
H. C. Gupta, J. Malhotra, N. Rani and B. B. Tripathi (New Delhi, India)	
BOOK REVIEWS	191
CONFERENCE CALENDAR	193
LETTERS	
Electrical conductivity of antimony sulphiodide	L1
L. Palaniappan, F. D. Gnanam and P. Ramasamy (Madras, India)	
The torsion behaviour of stir-cast Cu-11wt.%Sn alloy at room temperature	L5
Y. Combres and J. Collot (Valbonne, France)	
Superficial characterization of NbSe ₂ single crystals: an Auger electron spectroscopy study	L9
G. Vacquier, A. Casalot and A. Rolland (Marseille, France)	

(continued on inside back cover)

